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U.S. Summit Stance: Nucle

Testing Will Go On

The following article is based on reporting by Michael R. Gordon and Leslie H. Gelb and was written by Mr. Gelb.

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WASHINGTON, Oct. 3 — For the foreseeable future, the United States will not agree to join a July 30 Soviet moratorium on all nuclear testing or agree to a total test ban treaty, according to senior Reagan Administration officials.

The officials said President Reagan would take this position — on the ground that a total ban could not be verified — when he meets with the Soviet leader, Mikhail S. Gorbachev, at the summit meeting scheduled for Nov. 19-20 in Geneva.

But even if the two sides could agree on means to verify such a treaty, the Administration is determined to continue testing to develop new nuclear warheads, officials said.

"Verification is not the only or main stumbling block to agreement," said Kenneth L. Adelman, the director of the Arms Control and Disarmament Agency.

The test ban proposal has been a prominent issue in the arms control debate since the Soviet Union announced July 30 that it was halting nuclear testing from Aug. 6 to the end of the year, and invited the United States to follow suit.

The United States has announced that it has conducted two tests since the Soviet offer, including one on the day that the Soviet Foreign Minister, Eduard A. Shevardnadze, met with President Reagan.

American officials also contend that a test ban would not prevent the spread of nuclear weapons, despite the insistence of most signers of the 1968 treaty to stop the spread of nuclear weapons that a ban is essential.

Officials from the Pentagon, State Department, White House and intelligence agencies also made these points:

¶For more than two years, there has been no interdepartmental study of the ability to verify a test ban, although the weight of expert opinion in and out of the Administration holds that the difficulties could be worked out.

¶Despite Administration statements that Moscow stepped up its nuclear tests before proposing its moratorium, intelligence experts estimated that Russian testing up to August was "average."

¶A ban would not seriously impede the development of warheads for new MX and Midgetman missiles, but it would affect the development of a new warhead for the Trident II missile and the development of nuclear "Star Wars" antiballistic missile systems.

The Historical Record

Opponents of a test moratorium say the historical record shows that Moscow cannot be trusted.

In 1958 President Eisenhower announced that the United States would observe a moratorium on tests if the Soviet Union did the same. Both sides stopped testing until August 1961, when the Soviet Union began a sizable test program. Spurgeon M. Keeny Jr., a former arms control official who is now the director of the private Arms Control Association, noted that the Soviet decision to resume testing came after President Eisenhower said the moratorium had lapsed and after the French began testing.

The Kennedy Administration negotiated a treaty prohibiting testing in the atmosphere, under water and in space.

In 1974 the Nixon Administration negotiated the Threshold Test Ban Treaty, which limited underground tests to 150 kilotons. The Ford Administration followed with a treaty that extended this limit to peaceful nuclear explosions. These treaties were not submitted to the United States Senate for approval, but both sides say they are adhering to the treaty limits.

The Carter Administration initially sought a comprehensive test ban treaty of unlimited duration, but later decided to work for a three-year ban. American and Soviet negotiators reached agreement on important measures, including placing seismic monitoring devices at 10 sites in each country for verification. But the talks fell by the wayside after the Soviet intervention in Afghanistan in December 1979.

The Reagan Administration has said that a comprehensive ban is a long-term goal, but it has not sought to resume the comprehensive test ban talks.

Testing Proposals

After Moscow announced its testing moratorium, the Administration called it a propaganda move and unveiled its own proposal to improve verification of the threshold test treaties, beginning with an American to Soviet experts to visit a United States test site.

The Soviet position has been that the threshold treaties can be verified and should be approved.

Robert C. McFarlane, the national security adviser, charged that Moscow "accelerated the number of tests that they've had so that they wouldn't need to test for the next five months or so."

Administration officials say that this charge is based, in part, on satellite observations that showed the Soviet Union speeded preparations for several nuclear tests. But they now say that only some of the tests were actually executed before the moratorium.

These officials also now say the number of Soviet tests carried out in the first seven months of 1985, before the moratorium, is in line with past Soviet annual testing totals and that the Soviets have forgone tests in August and September, which traditionally have been heavy testing months.

Ola Dahlman, research director of the Swedish National Defense Research Insitute, which has a seismic monitoring capability, said in an interview that "there is no significant difference between this year and preceding years."

The Verification Issue

In rejecting the Soviet offer, Administration spokesmen cited verification problems. But other explanations were offered in subsequent public statements, including one by Richard L. Wagner Jr., an Assistant Secretary of Defense with responsibility for nuclear weapons programs.

"Even if effectively verified, a comprehensive test ban would not be in the national security interests of the U.S.," he told Congress.

Moreover, officials said that no formal interdepartmental review of the evolving abilities to verify a ban has been conducted in over two years, despite some advances in verification.

Since the mid-1970's "there have been some important changes in capability resulting from steady progress in our research program in geophysics and explosion seismology," said Dr. Ralph W. Alewine 3d, a scientist at the Defense Advanced Research Projects Agency said in recent Congressional testimony.

A particularly important research program is a joint American-Norwegian array of seimic sensors in southern Norway, which includes sensors that are better at picking up high-frequency signals than other seismic devices are.

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The hope is that this capability will block several means of trying to cheat on a test ban, such as conducting nuclear tests in a large underground cavity or during an earthquake. Higher-frequency signals are less easily muffled from within a cavity and an array of sensors is better able to differentiate between an earthquake and a nuclear test.

Seismic stations in the Soviet Union would make it harder for the Soviet Union to hide tests "greater than a few kilotons," Dr. Alewine said.

Other experts, such as C. B. Archambeau, a visiting scholar at the defense research agency, take a more optimistic view. A network of 25 seismic sites in the Soviet Union and 15 outside of it could enable the United States to identify nuclear explosions of one kiloton or less even if the Soviet Union tried to cheat, he said.

According to a coming volume of the Nuclear Weapons Databook, the three United States nuclear laboratories devoted $1.9 billion to warhead activities in fiscal 1985. In contrast, the defense research agency spent $14 million in 1985 on seismic research for verification, up slightly from $11.6 million in 1980. Financing by the Arms Control and Disarmament Agency for verification-related seismic research was $120,000 in 1984, down from a recent high of $750,000 in 1980.

"In view of all the hang-ups that this Administration has on verification, you would think that they would spend more on it," Mr. Archambeau said. But some officials said that verification was adequately funded.

Some seismologists say that from a technical standpoint a very low-level limit on the yield of tests would be easier to monitor than a ban. In either case, experts generally agree that cheating at very low levels of one kiloton to five kilotons would not allow the development of new strategic weapons.

Ray E. Kidder, a physicist at the Lawrence Livermore National Laboratory, said that the laboratories "don't worry about a comprehensive test ban as a real possibility."

He added, "What worries them is that the limit will be lowered." He also said the laboratories "are positively reluctant to examine what can be done at low yields because they fear a self-fulfilling prophecy."

Stockpile Reliability

Administration experts agree that American nuclear warheads are superior to Soviet warheads in several important respects, including the ratio of nuclear yield to the warhead weight. Also, the American testing program has been more extensive over the years than the Soviet one, and it has conducted about 760 nuclear tests while the Soviet Union has conducted about 560.

But Administration officials say that because United States warheads are more sophisticated than Soviet ones they require more testing.

In addition, to support their case that testing is necessary, officials have cited a 1983 paper commissioned by the Department of Energy that notes problems that have afflicted warheads for strategic and tactical missiles. The solutions to some of the problems were confirmed through nuclear testing.

In one case, the paper notes, problems were found with the mechanical device that armed the W-47 warhead that was designed for the Polaris missile. The warhead was modified and tested to make sure it was safe and would explode at the designated yield.

Richard L. Garwin, of the Thomas J. Watson Research Center, said that in general stockpile reliability is determined by carefully taking apart and inspecting warheads, and not through nuclear tests. In the case of the W-47 warhead, he said, the problem with the arming device could have been solved if the option of developing a new warhead had not been available.

He acknowledged that a ban on tests would stand in the way of some safety improvements, such as the use of insensitive high-explosive mixtures that are used to detonate nuclear weapons. But he said, "Our weapons are adequately safe."

Developing Warheads

A major question has been whether a ban would prevent the United States from developing needed new warheads for new weapons.

"It would cut off new developments of a radical nature," said Mr. Keeny, referring to systems such as the X-ray laser that is powered by a small nuclear explosion, and smaller-yield nuclear weapons.

C. Paul Robinson, principal associate director at the Los Alamos National Laboratory, countered, "The people who would say 'Let's stop testing' want to stop destabilizing weapons."

"We are working hard to build stabilizing weapons," he said, referring to systems such as the Trident II missile, launched from a submarine, and smaller-yield tactical nuclear weapons.

By most accounts, a test moratorium would have little effect on the MX program since almost all of the important testing of the warhead for the MX missile has been done.

Nor would it have much effect on the Midgetman program to develop a small one-warhead land-based missile, since the current Air Force plan is to use the same re-entry vehicle — the MK-21 — on both the MX and the Midgetman.

In the case of the Trident II submarine-launched missile program, the "basic design work" for the warhead for that missile has been "essentially done," though a series of important tests of the effect of nuclear explosions on the warhead lie ahead, according to Mr. Robinson. But a former Navy expert said that the Navy could use the MK-12A warhead, which is used on some Air Force's Minuteman missiles.

That a test ban would stand in the way of the development of some nuclear "Star Wars" systems and new generations of strategic and tactical warheads is not in dispute.

Policy Considerations

Finally, top Administration policymakers maintain that a ban on testing would be of no particular benefit in preventing the spread of nuclear weapons, which is called for in the 1968 treaty to limit the spread of nuclear weapons.

Nor do top Administration officials say that their rejection of Moscow's proposal for a total test ban will have much of an effect on Soviet-American relations. Soviet officials concede as much, but insist that the ban is still important as a sign of American interest in reducing overall tensions.

Officials on both sides say that when Ambassador Anatoly F. Dobrynin of the Soviet Union has raised this subject in private conversations with Secretary of State George P. Shultz, they have gotten nowhere. The officials say the two men could not even agree on points such as which side is ahead in warhead design and whether United States figures showed that Moscow had accelerated its tests before proposing a moratorium.

Proponents of a test ban say they think that their best argument for a ban is that it would degrade confidence over time that existing warheads would work, and that this would reduce confidence in first-strike calculations. Administration officials acknowledge that this is a weak link in their position. But they argue that overall more capable weapons make for a more effective deterrent.